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TITLE: DETECTOR FOR COMBUSTION PRESSURE OF ENGINE

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ABSTRACT:

PURPOSE: To detect the combustion pressure accurately even under the bad environment due to a temperature variation or the like by correcting the combustion pressure based on the output of a photodetector under a specific engine state.

CONSTITUTION: A learning correcting part 7 consists of a light emitting element 8 such as a LED, a photodetecting element 9 such as a silicon-pin photodiode and a signal processing circuit 10, and the quantity of light emission of the element 8 is controlled based on a signal of a bottom dead center sensor 11. On the other hand, the circuit 10 transmits the output

voltage E_0 in proportion to the combustion pressure P to a microcomputer 12 for controlling an engine. Further, since a silicone diaphragm in a detection part 5 is stuck and fixed on a glass pipe having an almost similar thermal expansion coefficient, a variation of a gap (l) between the end face of an optical fiber and the silicone diaphragm is made an exceedingly small amount even if the temperature of the detection part 5 is changed in a wide range by the combustion temperature of the engine. Accordingly, the highly accurate measurement of the combustion pressure P with little influence by the temperature is made possible.

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